

The Development of a Commercial Market in Low Earth Orbit

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Why this Workshop

Provide a face-to-face opportunity to engage the broader commercial and human spaceflight community on LEO commercialization issues

Perceptions

Expectations

Policy

Constraints

Barriers

Implications for current programs

Summary results from the ISS LEO Commercialization Request for Information

Industry is looking to NASA to define its demand in the future and to lay out an ISS end-of-life strategy, BEFORE they invest significant contributions for flight

- Informs industry where we are going
- Allows industry to decide where and how to participate
- Aids in raising of capital if investors can see how commercial desires fit within NASA's plans

RFI requested supply and demand commercial market ideas...the vast majority only provided supply proposals or ideas (CASIS did review the responses)

Several responders suggested a variety of commercially provided elements or services that could be demonstrated or provided to NASA at ISS before going independent

LEO commercial market is significantly dependent on economical, reliable and safe crew and cargo transportation

Most responders specifically mentioned that they wanted NASA personnel and facility expertise in developing their commercially provided capabilities

Several barriers were identified – some within the control of NASA and the ISS Program; and other related to policy and regulations

Conceptual Visions beyond the life of the ISS



A Conceptual Vision – Version 1

Sustained economic activity in LEO
enabled by human spaceflight,
driven by private investments,
creating value
through commercial supply and demand

*Destiny of LEO beyond ISS is in the hands of private industry
“outside the government box”*

A Conceptual Vision – Version 2

Sustained economic activity in LEO
enabled by human spaceflight,
driven by private and public investments,
creating value
through commercial supply
and public and private demand

“still tied to the government box”

What role does the government have in LEO beyond ISS?

Vision Achieved (examples)

The policy and regulatory environment promotes the commercialization of space

Commercial activity in LEO takes advantage of the full breadth of the US economy

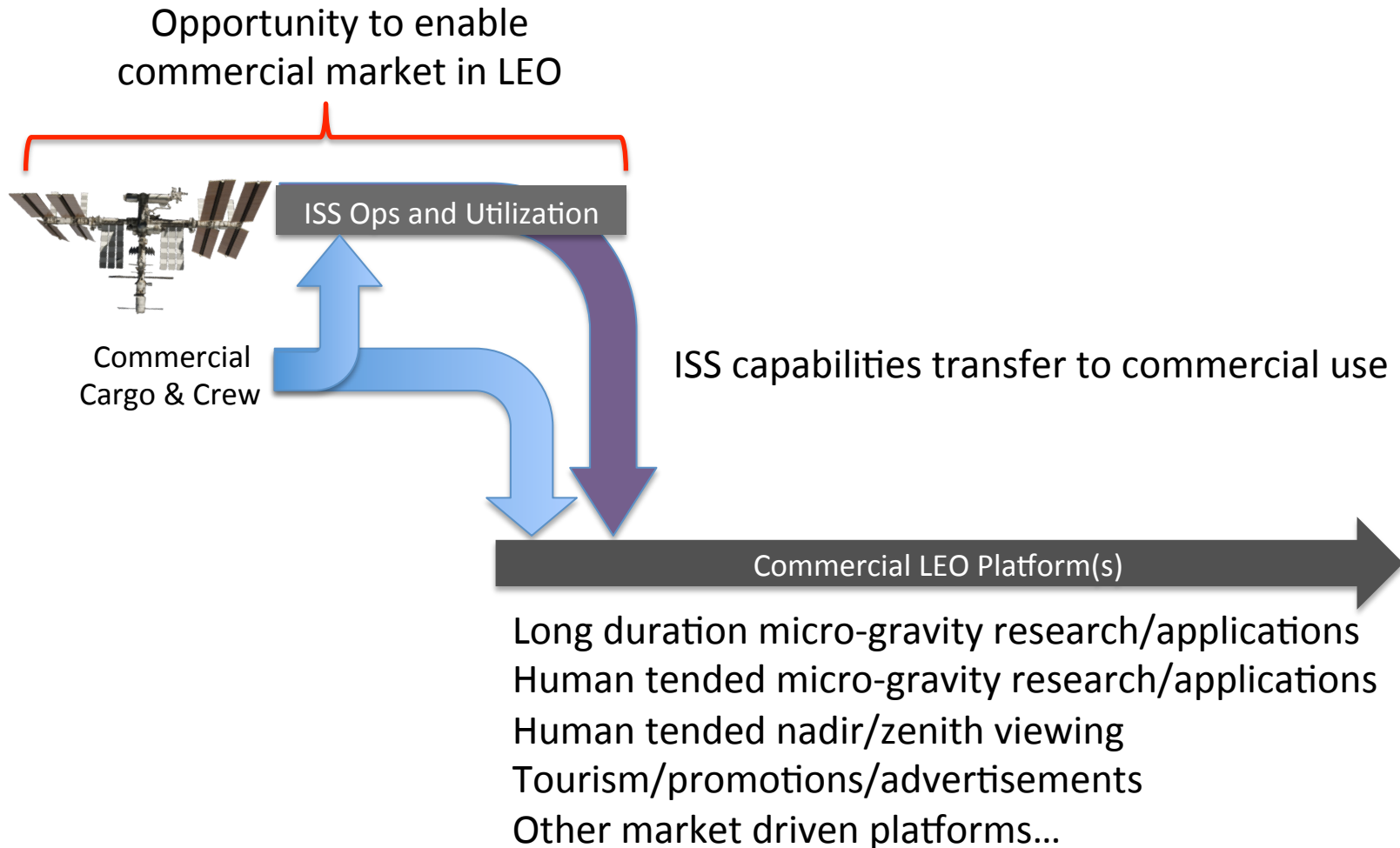
There exists a US commercial, human-spaceflight platform(s) in LEO

There is a US commercial competition in the supply of services to/in/from LEO

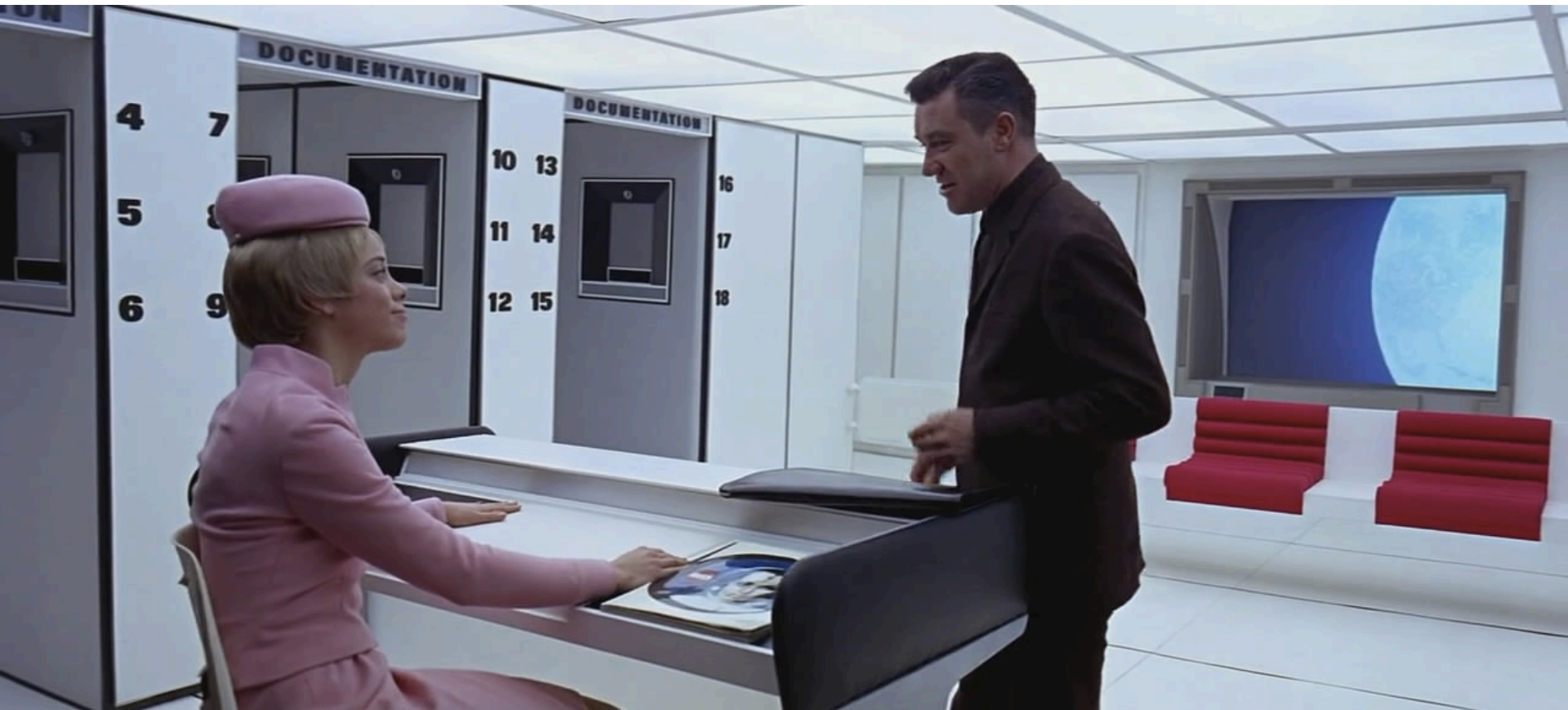
Multiple industrial disciplines are using LEO for commercial purposes

NASA has leveraged ISS to enable LEO commercialization freeing up resources for expanding human presence in space

The Future



Questions/Discussion



4th Annual ISS Research and Development Conference

7 – 9 July 2015 Boston, Marriot Copley Center
Abstracts due March 2

